
BULLETIN

of the

Chicago Herpetological Society



Volume 49, Number 4
April 2014



BULLETIN OF THE CHICAGO HERPETOLOGICAL SOCIETY

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The Bulletin of the Chicago Herpetological Society (ISSN 0009-3564) is published monthly by the Chicago Herpetological Society, 2430 N. Cannon Drive, Chicago IL 60614. Periodicals postage paid at Chicago IL. **Postmaster:** Send address changes to: Chicago Herpetological Society, Membership Secretary, 2430 N. Cannon Drive, Chicago IL 60614.

Notes on Mexican Herpetofauna 21: Green Ratsnake (*Senticolis triaspis*), A New Record from Sierra “Cerro de la Silla” (Saddleback Mountain), Nuevo León, Mexico

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Abstract

This note documents a new record of the green ratsnake (*Senticolis triaspis*) from the area of Sierra “Cerro de La Silla” (Saddleback Mountain), Nuevo León, México. We observed an adult female in Piedmont scrub in July 2010. This represents the first record for this area and extends the range of distribution ca. 100 air-km from the known locality in southern Nuevo León and ca. 250 air-km from the closest locality in Tamaulipas.

Resumen

Este estudio documenta un nuevo record de la ratonera verde (*Senticolis triaspis*) para el área del Sierra “Cerro de La Silla”, Nuevo León, México. Observamos una hembra adulta en matorral submontano en Julio 2010. Este reporte representa el primer espécimen para ésta área y extiende el rango de distribución ca. 100 km-aéreos de la localidad reportada en el sur de Nuevo León y ca. 250 km-aéreos de la localidad más cercana en Tamaulipas.

Introduction

The green ratsnake (*Senticolis triaspis*) has a broad geographic distribution, ranging from southwestern United States and southern Nuevo León, central Tamaulipas south through México and much of Central America to Costa Rica. The species occurs at low to moderate elevations, ranging from near sea level to over 2200 m (Price, 1991; Lazcano et al., 1992; Contreras-Balderas et al., 1995; Lee, 1996; Schulz, 1996; Lavín-Murcio et al., 2002; Dixon and Werler, 2005; Lavín-Murcio et al., 2005; Vázquez-Díaz and Quintero-Díaz 2005; Lemos-Espinal and Smith, 2007a; Rhoads, 2008; Dixon and Lemos-Espinal, 2010; Lavín-Murcio and Lazcano 2010; Lazcano et al., 2010; Ramirez-Bautista et al., 2010; Lemos-Espinal and Dixon, 2013; Narvaez-Torres and Lazcano, 2013). The first report for green ratsnake (*Senticolis triaspis*) from southern Nuevo León on Federal Highway #58 (now #31 that runs from Linares to San Roberto), in Canyon Santa Elena, municipality of Iturbide, Nuevo León, was documented by Lazcano et al. (1992). In previous studies on the herpetofauna of the Sierra “Cerro de La Silla” (Saddleback Mountain), Lazcano et al. (2009) and Gallardo-Valdez (2006) didn't report the species for this particular mountain chain. Strangely, the species has not been reported for the state of Coahuila, which is between the states of Nuevo Leon and Chihuahua (Lemos-Espinal and Smith, 2007b).

Study Site

Field work was conducted in the area of Sierra “Cerro de La Silla” in the municipality of Juarez, Nuevo León. This area is considered a Federal and State Natural Protected Area in central Nuevo León (Anonymous, 2000). This specific mountain area is within the municipalities of Guadalupe, Monterrey and Juarez. It has an area of 20 km² and an altitudinal gradient ranging from 550 m to 1800 m (Figures 1 and 2). Climate in the area is classi-

fied by García (2004) as (A)C(W°), corresponding to the temperate group, with semi-warm and subhumid areas, and with average annual precipitation of 700–900 mm, but only 5 to 12% of the rain in the winter. Annual median temperature is higher than 18°C and in the coldest month temperatures fluctuate between -3 and 18°C. The main types of vegetation present in the area are the Piedmont scrub and oak forest, but also riparian vegetation occurs in canyons and along streams in the area.

Methods

The report was carried out during the intensive sampling by transects that took place in the area, product of a study monitoring amphibians and reptiles in 10 localities of the Monumento Natural “Cerro de La Silla” for one year during April–November 2010 and February 2011 (Chavez-Cisneros, 2011).

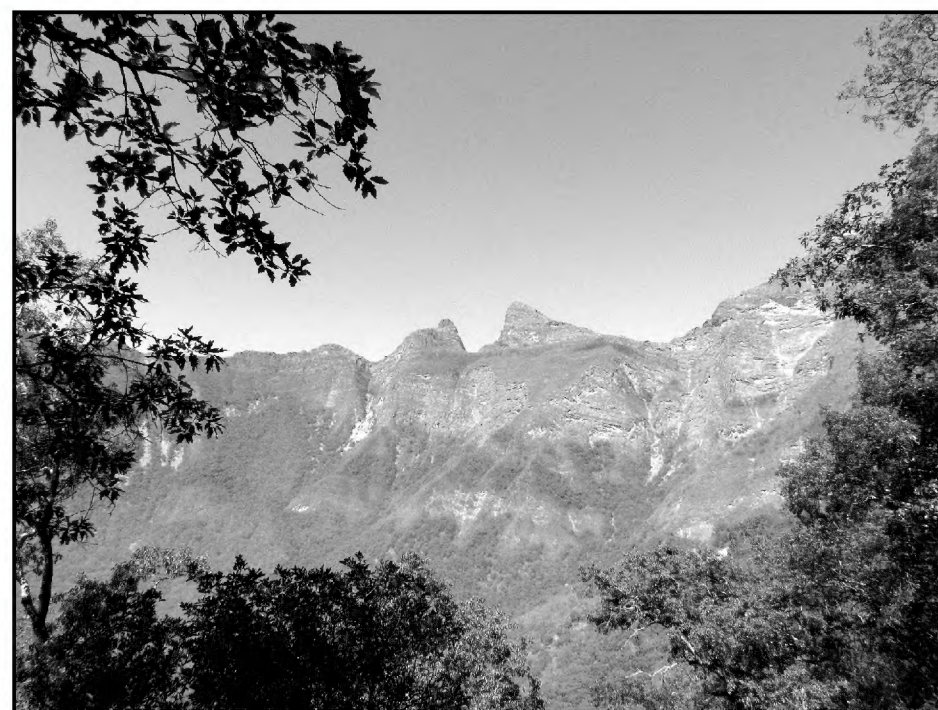


Figure 1. Sierra “Cerro de La Silla” seen from the municipality of Juarez, Nuevo León. Photograph by Anwar Medina-Villarreal

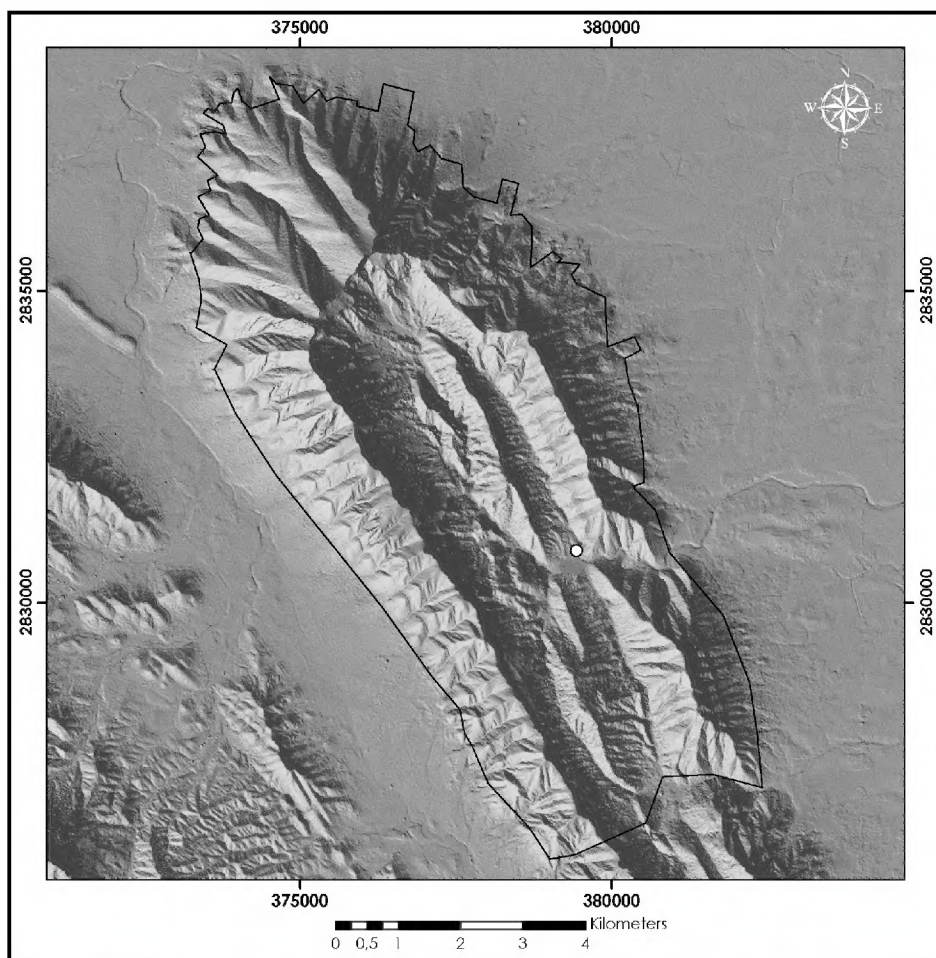


Figure 2. Hollow circle indicates locality where *Senticolis triaspis* was observed on Sierra “Cerro de la Silla,” Nuevo León, Mexico.

Results

During a visit to the northeastern slope of the mountain ($25^{\circ}35'24.1''\text{N}$, $100^{\circ}12'02.0''\text{W}$) on 31 July 2010, we observed an adult female green ratsnake (*Senticolis triaspis*) (Figure 3) at 11:44 h in a Texas ebony tree (*Ebenopsis* [formerly *Pithecellobium*] *ebano*) in Piedmont scrub at 581 m. (Figure 4). The snake was collected, and transported to the Herpetology Laboratory of the Facultad de Ciencias Biológicas, Universidad Autónoma de Nuevo León (UANL), for examination, measurements, and documentation; (photo voucher UANL 7208).

Discussion

We observed the snake very close to a blue-crowned motmot (*Momotus momota*). Birds are common food items of the green ratsnake (Price, 1991; Stebbins, 2003; Pérez-Higareda et al., 2007), and perhaps the snake was attempting predation. Al-



Figure 3. A green ratsnake (*Senticolis triaspis*) near where it was found in Piedmont scrub in Sierra “Cerro de La Silla.” Photograph by Jerónimo A. Chávez-Cisneros.



Figure 4. Piedmont scrub habitat of the green ratsnake in Sierra “Cerro de La Silla.” Photograph by Jerónimo A. Chávez-Cisneros.

though the green ratsnake is often thought to be extensively arboreal (e.g., Stebbins, 2003), recent observations suggest that this may not be the case (Sherbrooke, 2006; Radke and Malcom, 2009; Williams, 2010). Our observation of arboreal behavior may represent foraging or thermoregulatory activity. Mammal hair was observed in the feces of the snake.

This specimen (UANL 7208) generally agrees with the description of *S. triaspis* as provided by Dowling and Fries (1987). Scutellation of UANL 7208: the head scales are normal; loreals, 1-1; preoculars, 1-1; postoculars, 2-2; supraoculars, 2-1; temporals, 3-3; supralabials, 7-8; infralabials, 9-8; dorsal scale rows: midbody, 35; anteriorly, 29; posteriorly, 25; ventrals, 272; subcaudals, 81 (Figure 5). Additional measurements: snout-vent length, 885 mm; total length 1084 mm; weight, 232 g. This



Figure 5. Lateral head view of the green ratsnake showing the three large temporal scales characteristic of the species. Photograph by Jerónimo A. Chávez-Cisneros.

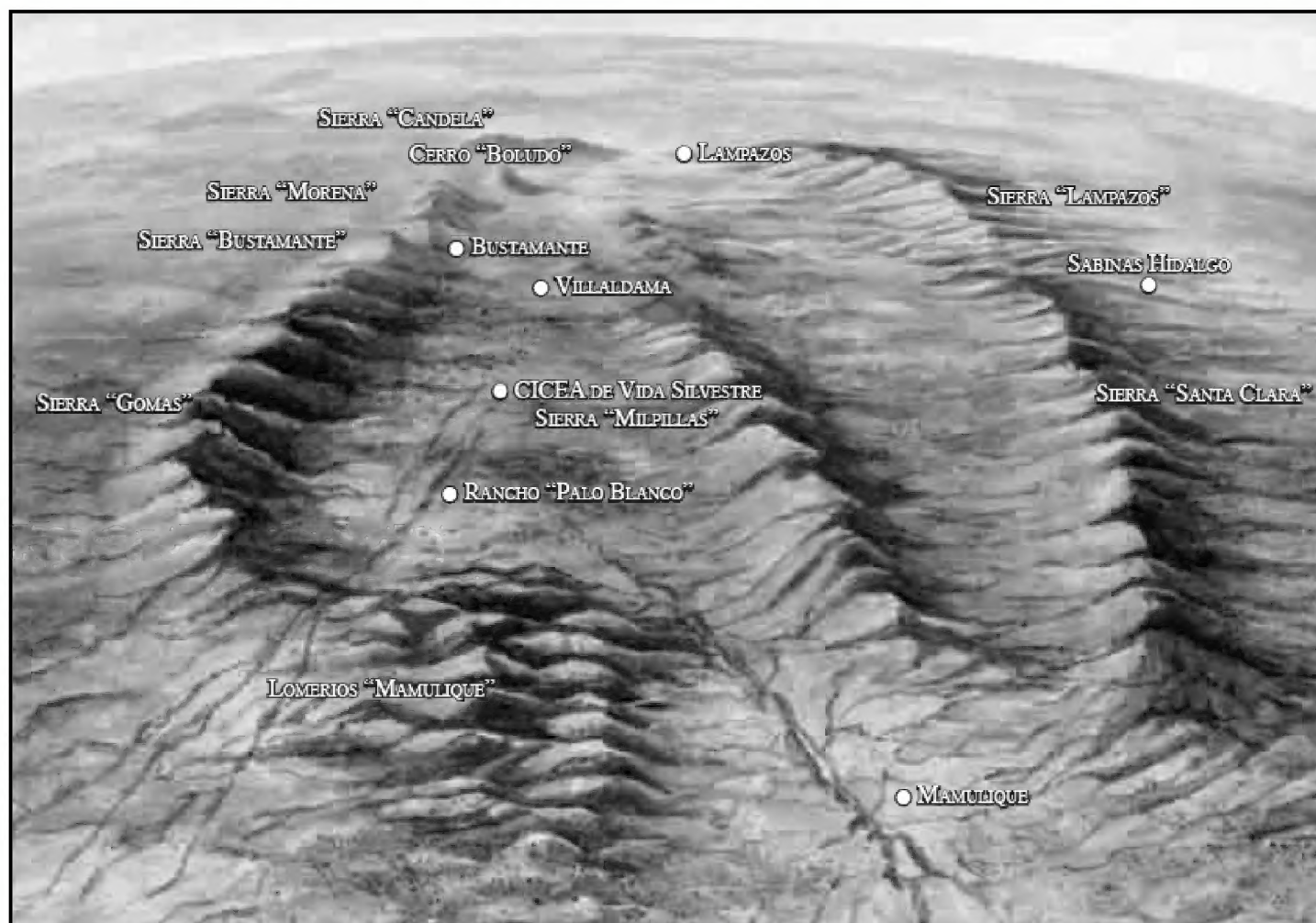


Figure 6. Mountain ranges in northern Nuevo León where *Senticolis triaspis* might occur. Illustration from Villarreal González (2009).

specimen represents the fourth record of *S. triaspis* from Nuevo León (others are from the municipality of Iturbide), and extends the distribution ca. 100 air-km from the known locality in southern Nuevo León (Lazcano et al., 1992) and ca. 250 air-km from the specimen (KU 35094) from Cd. Victoria, Tamaulipas.

Finding of this species in Sierra "Cerro de La Silla" suggests the possibility that the species occurs in other northern mountain chains of Nuevo León such as: Sierra "Gomas," Sierra "Candela," Sierra "Morena," Sierra de la Iguana, Sierra "Lampazos," Sierra "Santa Clara" and Sierra "Bustamante" (Figure 6).

Acknowledgments

We thank M. Alejandra Salinas-Camarena, Juan Antonio García-Salas, David A. Borré-González and Joel Ortega-

Pimienta for their support in the field. We appreciate David Conti (Director) and Alan S. López-Villarreal (Subdirector) for their support to work in this natural protected area. We also would like to thank Dr. Robert L. Bezy for revision of manuscript and providing information, William L. Farr for thoughtful comments, and R. M. Brown for providing information on specimens at the University of Kansas. This research received financial support from: Convenio CONANP-Monumento Natural Cerro de La Silla-UANL, CONANP/019/MN01/PROCOCODES/01/10 and CONANP/019/MN04/PROCOCODES/02/10. Research and collecting were conducted under the authorization of SEMARNAT Scientific research permits OFICIO/NUM/SGP/DGVS/ 02262/2010 issued to David Lazcano. We also thank the San Antonio and Los Angeles Zoos for their financial support of our projects.

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Additional Notes on the Distribution of *Pseudotriton montanus* in Maryland, with Comments on Its Conservation Status

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In a previous effort (Miller, 2011) to clarify the distribution of the mud salamander, *Pseudotriton montanus*, I stated: “little has been published on this species in Maryland; however, much of this is erroneous or unfounded.” At the time, I was unaware of an internet publication (Chalmers, 2006) that would have considerably lengthened my task. Chalmers’ report is rife with procedural and factual errors that present a distorted view of the mud salamander’s distribution; consequently, she has reaffirmed a conservation status for it that I believe is unwarranted. INHS refers to the Illinois Natural History Survey and UIMNH to the University of Illinois Museum of Natural History; other museum abbreviations are listed in Miller (2011).

The stimulus for the Chalmers study is the belief by the Maryland Department of Natural Resources that *Pseudotriton montanus* “is a species of Greatest Conservation Need (GCN) currently under review by the Maryland DNR Natural Heritage Program for listing as a rare, threatened, or endangered species . . .” (Chalmers, 2006). Inexplicably, she also cites NatureServe’s 2006 ranking of S2 (State Imperiled) as further justification, unaware that NatureServe obtains its assessments from the Natural Heritage Programs of the states, in this case the Maryland Department of Natural Resources, her former employer. As for the DNR, their definition of S2 status reads: “State rare. Imperiled in Maryland because of rarity (typically 6 to 20 estimated occurrences or few remaining individuals or acres [sic] in the State) or because of some factor(s) making it vulnerable to becoming extirpated. Species with this rank are actively tracked by the Natural Heritage Program.” This is the wording in the most recent (2010) DNR online listing and is identical to the wording of 16 years earlier (Maryland DNR, 1994). By this criterion *P. montanus* would not qualify as S2 since Harris (1975) plotted 29 localities, and the Coastal Plain Physiographic Province, where this species is overwhelmingly confined, makes up approximately 60% of the state. Although about half of Harris’s sites are not in the public domain (museum specimens or the literature), Chalmers made no attempt to learn their bases. This should have been an obvious starting point for assessing the species’ status in Maryland.

In addition to her and her assistants’ field work, which was limited to 2006, Chalmers also cites the disappointing efforts of the Maryland Biological Stream Survey (MBSS), also confined to 2006. An examination of Appendix B, which shows the sites sampled by MBSS for *Pseudotriton montanus*, indicates that very little of its range was investigated. On page 15, in a bit of disingenuousness, Chalmers states that MBSS has surveyed >2500 stream sites since 1994 with, apparently, little success in finding the species. She says nothing about where these streams are located or how realistic they are as habitat for mud salamander larvae. However, elsewhere in her report (pages 8, 11, Table D.1) Chalmers suggests that MBSS was not competent to cor-

rectly identify *Pseudotriton* larvae in the first place. To anyone familiar with the streams of southern Maryland (I cannot speak to the Eastern Shore having done little field work there), the potential habitat for mud salamanders is extensive, and one year is scarcely enough time for Chalmers and MBSS to undertake more than a cursory survey. Moreover, Chalmers herself undermines the justification for her study when she states (page 2): “Limited observations may be due to rarity, patchy distribution, difficulty in detecting the species, or difficulty in distinguishing the species from northern red salamanders (*Pseudotriton ruber*). The distribution, relative abundance, and habitat tolerances of *P. montanus* in Maryland are not known.” She undercuts it further when she states (page 15): “Species can be present but not detected, and this is particularly likely for *P. montanus* because of its subterranean habits.” How, then, at the time of Chalmers’ study, could this species be assigned a rank of S2?

Pseudotriton montanus is definitely known in Maryland from ten of its 23 counties (Miller, 2011) and almost certainly occurs in at least another six. The example of Pennsylvania (McCoy, 1992) has shown that mud salamanders could occur just about anywhere in Maryland that possesses suitable habitat. This species has an extensive distribution in the southeastern United States (Martof, 1975; Conant and Collins, 1991; Petranka, 1998; Hunsinger, 2005), although, on balance, appears to be infrequently collected. For example, Mount (1975), writing about *P. m. flavissimus*, states: “This salamander, described in 1856, remains one of our most poorly known forms. Nowhere does it seem to be abundant. The concentration of locality records for eastern Alabama indicated on the distribution map occurs within an area that has been searched intensively for salamanders for the past 15 years and one which contains seemingly optimal habitat . . .” McCoy (1992), remarking on a known but undocumented site for the mud salamander, wrote: “In 1988 and 1989 field crews from Carnegie Museum of Natural History, working on a survey of the rare and endangered amphibians and reptiles of Pennsylvania, spent more than 30 man/days in unsuccessful searching for *P. montanus* in Caledonia State Park.” On the other hand, Bruce (1975) collected 231 metamorphosed individuals from two localities over a ten-year period in North Carolina, and Green and Pauley (1987), concerning *P. m. diastictus* in West Virginia, state: “During heavy rains in early spring and fall they may be seen in large numbers crossing highways and along stream banks.” The point here is that far more data are needed on mud salamander distribution and abundance, not just in Maryland but throughout their range, before assigning a dire and unwarranted ranking. The sober assessment this requires cannot be done in one year. I believe that a team of investigators possessing the capabilities of R. C. Bruce and given enough time would demonstrate that *Pseudotriton montanus* would qualify as an S5 (“Secure”—NatureServe and “Demonstrably secure in Maryland under

present conditions” —DNR) species in Maryland. However, since this will not occur, the most suitable ranking for *P. montanus* in Maryland is SU: “Unrankable . . .” (NatureServe, 2014) and “Possibly rare in Maryland, but of uncertain status . . .” (Maryland DNR, 1994, 2010).

Chalmers’ map of the current distribution of *Pseudotriton montanus* (Appendix D) shows two highly unusual “records”; both are from the piedmont and nowhere near those plotted by Harris (1975) or the documented distribution shown by Miller (2011), who maps no record later than 1988. One is from Liberty Grove Road, Cecil County, and the other is from an unspecified site in extreme north-central Harford County. Both are unsubstantiated (S. A. Smith, personal communication). Chalmers initially sources the Harford County “record” to Taylor et al. (1984), but they merely list *P. montanus* in a table of species that were found incidental to a survey for *Clemmys* (= *Glyptemys*) *muhlenbergii*. In Table D.1 she also adds S. A. Smith as further corroboration. Smith (personal communication) states that the site is from an unnamed tributary to Broad Creek near Whiteford, but that he places no reliance in it. As noted above, mud salamanders could occur virtually anywhere in Maryland possessing suitable habitat, but the acceptance of range-limit sites requires a higher standard of proof. In addition, a locality plotted by Chalmers for the Eastern Shore, in Pocomoke State Forest, Worcester County (Foley and Smith, 1999), is based only on an observation by D. H. Foley III, and S. A. Smith (personal communication) is not completely convinced of its accuracy. Miller (2011) would later show that assigning unidentified metamorphosed *Pseudotriton* to species based on geography is untenable. In a paper overlooked by both Chalmers (2006) and Miller (2011), Southerland et al. (2004) report finding two *P. montanus* from an unspecified site or sites in the Maryland piedmont or mountains. Unfortunately M. T. Southerland (personal communication) is unable to account for their statement.

Chalmers’ map of the historic distribution of *Pseudotriton montanus* (Appendix E) is riddled with errors. Nearly all of the 28 localities listed have problems and demonstrate the difficulty most ecologists have when dealing with museum data. To be fair, some of the information provided to her (e.g., by H. S. Harris, Jr.) may have been faulty. These are taken in order. (2): (. . . “CMNH 35847 re: 39405 to 139413, 139402 to 139404, 139411, 143149).” First, the correct abbreviation for the Carnegie Museum of Natural History is CM, not CMNH. Chalmers employs this erroneous designation throughout. 35847 is the accession number for the J. A. Fowler collection that is relevant to the material she cites (S. P. Rogers, personal communication). Except in instances involving historical matters, accession numbers are rarely mentioned in the literature. In my experience, they are never mentioned when listing catalogue numbers; it is needless and only creates confusion. Second, the material, from Calvert County, is not listed sequentially. She does this numerous times throughout Appendix E. 39405 is a misprint for CM 139405. Sites 1 and 2 pertain to Calvert County, and it is interesting that A. W. Norden, who told Chalmers that he found the species at Battle Creek Cypress Swamp, forgot to inform Chalmers of his finding of *P. montanus* at Calvert Cliffs State Park (Norden, 2005), a “record” I rejected for lack of evidence

and other reasons (Miller, 2011). (4): “RT.6 SE Rt 235 (MNHM A 4743).” The locality data are stated correctly if awkwardly. However, one cannot be on MD Route 6 and be SE of its intersection with MD Route 235. The data should probably read MD Route 235, SE JCT MD Route 6. However, this is still unsatisfactory since MD Route 235 runs nearly the entire length of St. Mary’s County. While preparing the map in Miller (2011), the collector of this specimen, L. R. Franz, was emailed several times asking for a clarification, but none was received. Chalmers has once again invented her own collection abbreviation, this time for the Natural History Society of Maryland; she does this throughout Appendix E. The correct one is NHSM. (5): “. . . USFWS H8894 . . .” Yet again Chalmers has coined another collection abbreviation, which she attributes to Fowler (1941). She did this again in listings 9 and 10-11. Fowler did not list a collection abbreviation and, in any event, USBS would have been the correct one. (7): “Upper Marlboro (MNHM A2472).” The correct but poorly formulated data, by J. D. Hardy, Jr., for this specimen are ca. 13 miles N Upper Marlboro, Anne Arundel County. Understandably, Chalmers plots the site in Prince George’s County. (8): USNM 371241 is listed, but not USNM 371242. (10-11): USNM 101427 is cited, but not USNM 101428; however, we find the listing “USFWS 101427, 101428.” Again, this is erroneously attributed to Fowler, who clearly listed the specimens as “(USNM No. 101427-28).” Because Chalmers made no serious effort to verify identifications of preserved material — quite odd given her fixation on larval identification — her listing of PSM 9294 as *Pseudotriton montanus* is incorrect. Although originally catalogued as such, the specimen is in fact *P. ruber*. However, PSM 9298, originally catalogued as *P. ruber* is *P. montanus* (Miller, 2011). “Harris AS 104” is also cited. First, the correct collection abbreviation is NHSM/HS. Second, NHSM/HS 104 consists of three specimens, none extant, from two localities [Solley and, apparently, Ventnor Road, N JCT Mountain Road (MD Route 177)]. Third, neither of these sites are anywhere near station (10-11), which is Priest Bridge, which on page 15 she twice calls Priest’s Corner. Elsewhere, on page 11, Chalmers confuses the NHSM collection with NHSM/HS. She cites two specimens, “Harris personal collection #A231 and #A253” that are actually NHSM 231 and 253, although the latter may be *P. ruber* (Miller, 2011). (12): USNM 368109-368110 are cited, but according to the USNM website both are *Plethodon cinereus*, not *Pseudotriton montanus*. (13): “Patuxent Research Refuge . . .” This facility’s name should have been updated to Patuxent Wildlife Research Center. She cites Fowler (1941) for the name she uses, but he calls it Patuxent Refuge and cites only one of the four specimens she lists, nearly all of which are listed in backwards sequential order. (14-15): “Solley & Brennan (Harris AS76, AS77, AS104, AS122, AS126, AS147 to AS149, AS209 to AS212).” NHSM/HS 76, 104 (as noted above), 122, 126, 148 are not in the collection and have presumably been discarded. “Brennan” is a misspelling for Brandon, which, moreover, should read Brandon Shores. Brandon Shores was a frequent collecting locality for Harris, but he repeatedly misspelled it in his catalogue. (17): “Snyder’s Willow Grove Restaurant (A. Norden, pers. comm.)” This simply is not the way locality data are presented. Although this establishment still exists (apparently it is better than its ratings) and is located at 841 North Hammond’s Ferry Road,

Linthicum Heights, Anne Arundel County, a far better source for Chalmers to have cited is UF 41063-41064, but she did not fully survey this collection. (19): “Western Run Pkwy (Fowler 1941).” Fowler clearly states that the locality, based on NHSM 1209, 1222 (Miller, 2011), is in Baltimore City; Chalmers plots it 30 km to the north in Baltimore County. (20): “Benjies” should read Bengies. (21): Chalmers did not investigate the locality for near Price, Queen Anne’s County (Conant, 1957); Miller (2011) showed that it is dubious. (22): “Wye Mills Station (USNM 35847/139414).” These are CM, not USNM numbers, and once again the needless accession number (35847) is listed. (23): “Chapel Br., Denton (USNM 35847/139415, 35847/139416).” Same comment as for (22). Because Chalmers overlooked the MSB collection, she failed to cite MSB 28099 from 1.0 mi (1.6 km) E Federalsburg. This would have given her a second historic record for Caroline County. (24): “Nanticoke (USNM 141323).” The correct data are 17 miles NE Nanticoke, MD Route 349. (25): The whole range of incorrect collection abbreviation (“CMNH”), needless accession numbers, and nonsequential order is present here. (26): A better way to cite “Salisbury (Conant 1945)” would have been to list MSB 28104, which is actually from 2.0 mi (3.2 km) NW Salisbury. (27-28): Chalmers plots two localities in Worcester County that were mapped by Harris (1975). She did not treat any of Harris’ other plottings in this manner. Miller (2011) showed that one can be accounted for, while the other cannot. It is poor practice to replot another author’s localities without making an effort to determine what they are based on, especially when working on “a species of Greatest Conservation Need.”

The errors, mostly minor, continue in Table E.1, but one is of some importance. Chalmers cites the INHS as a “Source of Data (count of records).” First, she has confused the INHS collection with that of UIMNH. Second, the INHS does not have any *Pseudotriton montanus* in its collection, although the UIMNH may (UIMNH 50122). Unfortunately, due to desiccation, the identity of this specimen cannot be confirmed (C. A. Phillips, personal communication). Third, the locality data are vague and contradictory (“Pocomoke Swamp, Calvert County”), yet more evidence that this record cannot be admitted. R. A. Brandon, listed as collector of this specimen, has no memory of it and was unable to clarify the situation (personal communication).

While I am noting errors, I correct two that appear in Miller (2011). Technically it was Mansueti (1941a), not Fowler (1941), who first reported *Pseudotriton montanus* from Maryland. Mansueti’s article appeared five months prior to Fowler’s,

although it is clear from Mansueti’s remarks under *P. ruber* that if it were not for Fowler he would not have been aware that *P. montanus* occurs in Maryland. Mansueti (1941a) mentions a specimen from Vineyard (Baltimore County) [evidently NHSM 231, collected on 3 July 1935, as surmised by Miller (2011)] that was not cited by Fowler, and another locality from Baltimore City that was cited by Fowler. Oddly Mansueti (1941b) did not list the Vineyard site, even though his article was published eight months after Mansueti (1941a). A specimen record I supplied to Chalmers [TSU 330 from Chesapeake Ranch Club (she lists it as Chesapeake Ranch), Calvert County] appears to be a hybrid (with *P. ruber*) and was plotted as such in Miller (2011). I should have rechecked the original identification, especially since it was made by A. W. Norden.

There are numerous other errors, inconsistencies and lack of judgment scattered throughout Chalmers’ report. These include citing White and White (2002) as authoritative (pages 2–4), bizarre curation techniques (page 12), and a Literature Cited section that is rife with errors. The final page in Chalmers’ report (Appendix L), which claims to list “Amphibian and Reptile species of Greatest Conservation Need (GCN) observed by Maryland Biological Stream Survey during field surveys, 2006” lists, in addition to *Pseudotriton montanus*, only species (seven) that the Maryland DNR considers to be either S4 (“Apparently secure in Maryland . . .”) or S5 (“Demonstrably secure in Maryland . . .”) rank. Although Chalmers credits three individuals for editing her manuscript, they clearly were not up to the task. One also wonders about the absence of peer review, particularly when her report could potentially misdirect taxpayer money toward a species that deserves no special treatment. Misbegotten and poorly executed projects and reports of the sort under review have unfortunately promulgated an attitude of contempt and ridicule toward the Maryland Department of Natural Resources (e.g., Ashton et al., 2007; Lee, 2006, 2007a, b,c,d). It appears that oversight of all major undertakings by them is necessary.

Acknowledgments

I thank Ronald A. Brandon (Southern Illinois University retired), Scott M. Moody (Ohio University), Christopher A. Phillips (INHS, UIMNH), Stephen P. Rogers (CM), Scott A. Smith (Maryland Department of Natural Resources) and Mark T. Southerland (Versar) for providing information relevant to this note.

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What You Missed at the March Meeting

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I'm betting that you don't know much, if anything, about map turtles. You may not even care about them. You may have a fascination with snakes or frogs or alligators or even turtles, but I'm betting that for most reading this map turtles are not a primary or even secondary interest. Which means you're unlikely to have seen one, particularly a young one. They are beautiful creatures with a spiked keel along their carapace that gives them their other common name of sawback and hieroglyphics of orange and yellow decorating their mostly brown shells. It's hard to believe that someone could look upon these turtles and not think they're marvelous examples of aquatic chelonians. But how much do you really want to know about them? There's much to learn and life is short. Maybe you'll let the map turtle genus slide and concentrate on ball python morphs. But you'd be missing out on a lot and our March speaker's presentation gave us a glimpse of what you'd be missing.

I've known Chris Lechowicz for a while. I've been fortunate to be involved in some of his research and some of his fun. He is one of the best field naturalists I know and has led me into situations that I would never have encountered on my own. Sometimes that was even a good thing. He's originally from south Chicago, joined your society in 1991, became president of the CHS, went to college at Southern Illinois University and headed south after graduation where he is still working for the Sanibel Captiva Conservation Foundation. He decided to gain a Masters. Since he's been fascinated with map turtles since he was young and has studied them on and off throughout his life, it was not a particularly hard decision to make the *Graptemys* genus central to his thesis. The genus is the second most speciose of all North American turtles, for now giving the top title to the mud turtles (*Kinosternon*). What avenue would he pursue in



Chris Lechowicz holding one of his favorite turtles.
Photograph by Bill Love.

this complex and diverse group of turtles? He decided to document a relatively recent extension of two species' ranges and a little known hybrid of those species. Listening to a grad student talk about his thesis on an obscure area of an reasonably obscure turtle seems not the stuff of great times, but Chris took us on a tour that included not only his thesis, but a little of his history, a little of CHS history, a bit of travelogue, and a look at how science happens in spite of bad information, short funds, misunderstandings, and uncooperative weather. And he did it with photos, charts, slides and humor. Those of us who

know Chris were not surprised that he held our interest throughout his talk.

Chris started with a tribute to Ron Humbert, whom he labeled as "the heart of the CHS." Certainly those of us who knew Ron counted ourselves lucky. He had a fearless approach to fieldwork and an insatiable appetite for the natural world. He was eager to share his knowledge and willing to include anyone who was interested in his adventures. At the first CHS meeting he attended Chris met Ron and realized that not only did they share interest in turtles, they shared interest in map turtles. The very next spring of 1992 Chris went with Ron and others on one of Ron's map turtle trips. And again that fall and then every year until Ron's death in 2005. Chris credits Ron with much of his success in achieving the goals of his childhood. The photos of Ron certainly stirred the memories of those who knew him.

Next Chris gave an overview of the map turtle genus. Map turtles are primarily river turtles. They tend to bask a lot and are very shy, usually being the first turtles to slide into the water when disturbed. Most of the southern species are found in wide rivers with limestone beds, sand beaches, and lots of fallen trees in the water along the bank. Map turtles exhibit extreme dimor-



Ron Humbert, whom Chris labeled as "the heart of the CHS." Those of us who knew Ron cannot argue. Photograph by Chris Lechowicz.



A nice illustration of the sexual dimorphism in map turtles. The female on the bottom, male in the middle, and a cute baby on top. Photograph by Chris Lechowicz.



Handfuls of cute. Seven species represented here. Photograph by Chris Lechowicz.

phism, with the females being much larger than the males. Chris had a slide showing the disparity with the much smaller male perched on the back of an enormous female and a tiny baby capping off the stack. Three of the *Graptemys* species are relatively wide ranging across much of the mid U.S., but most are limited to specific river systems which empty into the Gulf of Mexico. There are two river systems with only one species but generally each river drainage has two map turtle species, one having females that are narrow-headed (microcephaly) and the other broad-headed females (macrocephaly). But this complex genus doesn't always follow the rules and the Mississippi map turtle is broad-headed in the south of its range and narrow-headed in the north.

Chris showed a map of the southeast river drainages containing *Graptemys*. From the Sabine River in the west to the Alabama River the highlighted and color-coded rivers each contain a broad-headed and narrow-headed map turtle species, but in the east the Escambia River has only *G. ernsti* and the Apalachicola River has only *G. barbouri*, both broad-headed species. Between those two rivers flows the Choctawhatchee River, a river that appears to be good habitat yet until quite recently all literature had reported it as being devoid of any map turtles. In 1997 Jim Godwin, while doing alligator snapping turtle surveys for the Alabama Natural Heritage Program, spotted a basking *G. barbouri* in the Choctawhatchee River. Through a circuitous route Ron Humbert and Chris heard of this revelation and within a few months scheduled a trip hoping to unearth the missing narrow-headed turtle that should have existed between the Escambia and the Apalachicola. Insufficient information had them looking in all the wrong places and that trip ended without success.

By the time Chris decided to pursue his master's in 2006 a bit more information was available about map turtles in the Choctawhatchee drainage. *Graptemys ernsti* was reported in the Pea River, a branch of the Choctawhatchee reaching west very close to the Escambia and *G. barbouri* reported farther north up the Choctawhatchee, where that river comes very close to the Apalachicola. There was also the intriguing possibility that the two species might be hybridizing somewhere in that drainage. Given all of these mysteries, it took little thought for Chris to build his master's thesis around the two broad-headed species in the Choctawhatchee River drainage. He would conduct basking

surveys, attempt to better define the ranges of the two turtles, study the morphological differences, and consider the biogeographical nature and potential origin of the two species in that drainage.

Chris then showed some slides of me looking stupid, which I must admit are relatively easy to come by. In my defense, field work often leads one to assume less than refined poses, but it seems as though many of our speakers enjoy taking and showing pictures of me that I'd rather not have illustrating my obituary. I think we need a new rule prohibiting such exploitation. The slides did illustrate some of the hazards of attempting to collect data in the field, from canoes that tended to soak participants as they lifted it onto Chris's Pathfinder to the less-than-four-star hotel rooms in which a limited budget forced us to stay. The latter illustrated by the photo of a half-dozen cockroaches on a bed pillow, a slide that elicited the expected groans. Those cockroaches were fake, but real roaches were too frequent.

Over the course of four years Chris collected data, sometimes with my help and sometimes with the help of others. As anyone who does fieldwork is aware, the results are often determined by events outside of the researchers' control. Extremely low water levels wiped out results from one entire year. Basking surveys, particularly in a stretch of the Pea River that Chris designated the hybrid zone, proved unreliable. Local inhabitants, while usually very helpful, could be difficult and even, rarely, dangerous. The Gulf Coast of the U.S. is not an exotic study area such as the Caribbean or New Guinea, but there is certainly beauty to observe and mystery to pursue. There were times that Chris and I were miserable, but those were far outweighed by the pleasures of canoeing and boating the abodes of the map turtle.

Chris managed to better define the range of *G. ernsti* and *G. barbouri* in the Choctawhatchee River drainage. He developed morphological methods that allowed him to declare some specimens as hybrids and will soon publish results of genetic studies. He raised questions about differences between the Choctawhatchee animals and the turtles in the two adjacent drainages. And he explored theories of how those two broad-headed species came to be in the drainage of the Choctawhatchee, including river capture and extreme flooding. With graphs and charts he led us through his thinking in approaching the various problems. With slides he illustrated some of his methods and allowed us to share in the beauty of the map turtles and the cuteness of the babies. He humorously related some anecdotes and explicitly explained some concepts. Chris gave suggestions for future studies that all scientific research tends to engender. He gave us a brief overview of the new book he co-authored (*Amphibians and Reptiles of Sanibel and Captiva Islands, Florida*). What he couldn't do is convey the excitement of cruising a river and finding a surprise snake, capturing gorgeous baby turtles after carefully stalking them from a canoe, meeting people willing to go way out of their way to help two researchers despite the fact that they don't understand and don't care about the things that we are doing, getting sunburned while lounging in a johnboat waiting for data to be recorded, and spending time with one of the world's foremost authorities on the genus *Graptemys*. But neither can I. Thanks, Chris.

Herpetology 2014

In this column the editorial staff presents short abstracts of herpetological articles we have found of interest. This is not an attempt to summarize all of the research papers being published; it is an attempt to increase the reader's awareness of what herpetologists have been doing and publishing. The editor assumes full responsibility for any errors or misleading statements.

COPPERHEADS ARE COMMON WHEN KINGSNAKES ARE NOT

D. A. Steen et al. [2014, *Herpetologica* 70(1):69-76] note that common kingsnakes (formerly known collectively as *Lampropeltis getula*) are experiencing localized declines throughout the southeastern United States. Because there have been limited studies to determine how snakes regulate prey populations, and because kingsnake declines may result in ecosystem impacts, the authors evaluated the hypothesis that kingsnakes regulate the abundance of one of their prey, the venomous copperhead (*Agkistrodon contortrix*). They generated a database of captures of the two species across the southeastern United States and, while controlling for large-scale habitat preferences, identified a negative relationship between the relative abundance of kingsnakes and the relative abundance of copperheads. The results are correlative but consistent with the hypothesis that copperhead populations experience a release from predation pressure where kingsnake abundances are low. The authors suggest that kingsnake declines, which are occurring for unknown reasons, are having ecological effects in affected ecosystems, and highlight the potential role that snakes play in influencing the population dynamics of their prey.

BEHAVIOR OF JUVENILE SALAMANDERS

E. B. Liebgold [2014, *Ethology* 120(4):388-399] notes that juveniles' behaviors are often influenced by the behaviors of conspecifics. Most experimental studies of the influence of conspecific behavior vary the social environment by the presence or absence of conspecifics or investigate the impact of the outcome of social encounters (winner/loser effects) but less frequently expose individuals to variation in behavioral phenotypes present in the social environment. Based on previous work showing that juveniles of the salamander *Plethodon cinereus* are likely to interact frequently with non-parental adults, the author hypothesized that territorial adults in the social environment alter the future behaviors of juveniles. The study measured the intracohort social behaviors of juvenile salamanders collected from two geographic areas, Michigan and Virginia, before and after housing with ostensibly territorial (Virginia) or non-territorial (Michigan) adults. There were overall effects of adult territoriality and aggression on the behavior of juveniles. However, juveniles from populations in Michigan were especially susceptible to behavioral modification. Compared with behaviors prior to being housed with adults, Michigan juveniles increased investigatory and escape behaviors in juvenile–juvenile interactions after being housed with adults that displayed territorial behaviors and decreased investigatory and escape behaviors after being housed with non-territorial adults. This study shows that not only is a specific behavior, territoriality of adult salamanders, a social environment that modifies future juvenile behaviors, but the effects of social environment may differ between populations.

FEEDING HABITS OF INDIAN PYTHONS

S. Bhupathy et al. [2014, *The Herpetological Journal* 24(1): 59-64] analyzed fecal samples and conducted direct observations to determine the feeding habits of native Indian rock pythons, *Python molurus molurus*, in Keoladeo National Park, Bharatpur, India, from October 2007 to September 2009. Pythons fed throughout the year except winter (December–February). Feeding was related to monthly mean minimum temperature ($r = 0.423$, $p < 0.05$), variation in temperature ($r = -0.671$, $p < 0.01$) and rainfall ($r = 0.695$, $p < 0.01$), but was not associated with prey abundance, monthly mean ambient temperature or humidity. A wide range of prey species belonging to mammals, birds and reptiles was consumed. This study enhances knowledge of the diet of the Indian rock python in its native habitat and further defines its feeding ecology.

DWARF CHAMELEONS IN AN URBAN AREA

E. M. Katz et al. [2013, *The Herpetological Journal* 23(4): 179-186] report that the Cape dwarf chameleon, *Bradypodion pumilum*, inhabits urban areas within a critically endangered ecosystem. In this study, temporal dynamics of local demographic parameters were investigated for a population of *B. pumilum* inhabiting a 0.56 hectare patch of transformed habitat bordering an urban area in Noordhoek, South Africa. Robust Design (RD) capture-mark-recapture (CMR) models were used to estimate population demographics because of their ability to distinguish and account for temporary unavailability of individuals versus being captured. RD models were fit to one year of CMR data to examine adult survival and local abundance. Additionally, multi-strata (MS) models were used to analyze chameleon growth rate and size-specific survival. The results indicate the site supports a fluctuating abundance of individuals, ranging from ca. 25–91 adult chameleons. Larger chameleons showed higher 30-day and annual survival rates than smaller individuals regardless of sex (30-day range: 0.56–0.84; annual range: 9.51×10^{-5} –0.12). Chameleons that survived to the beginning of each age class spent on average 1.1 months at 40–50 mm; 1.7 months at 50–60 mm; 2.5 months at 60–70 mm; and 6.3 months at >70 mm. Despite seasonality in the environment, there was no significant seasonal variation in chameleon survival. These findings indicate chameleon population dynamics characterized by local population fluctuations despite predominately constant, low survival; these findings suggest reproduction drives population fluctuations. *Bradypodion pumilum*'s high fecundity and low survival should allow for their persistence in disturbed habitats assuming they are able to take advantage of suitable conditions. Alternatively, these biological traits may make *B. pumilum* prone to large demographic fluctuations, yielding a high risk of local extinction. This study provides temporal data on local population dynamics and survival for a potentially threatened reptile species inhabiting altered habitats.

Common Herp Terms and Definitions

by Don Wheeler

- HERPING:

An activity consisting of turning over rocks and logs, old plywood, sheets of tin, and anything else on the ground while stumbling, sweating and sucking in gnats and mosquitoes.

- HERP TRIP:

(A) A journey where it becomes unseasonably hot, or cold, and rains most of the time.

(B) A group of people driving around looking for abandoned buildings and junk piles.

- SNAKE BAG:

(A) A cloth container with a concealed hole in one corner.

(B) The pillowcase your spouse thinks was lost in the dryer.

- GRABBING A RATTLESNAKE BY THE TAIL:

A bad way to commit suicide.

- SMARTY PANTS:

Anyone who knows the latest scientific nomenclature.

- OBSESSIVE:

Someone who keeps more turtles or snakes than the Cat Lady keeps cats.

- GOOD HABITAT:

A place where snakes are supposed to be, but aren't.

- A GREAT SPOT:

A place where you should have been yesterday.

- ANTIVENOM:

A substance injected to counter the effects of a dumb move you made.

- MICE:

What the ball python mistook your fingers for.

- SNAKE HANDLING ADVICE:

something that should never be taken from someone with a missing finger.

- HERPETOLOGICAL WASTELAND:

A place where everyone's finding snakes except you.

- INSECT REPELLENT:

A play on words.

- PINKIES, FUZZIES AND HOPPERS:

Thought by police to be the latest drugs of choice.

- PINNING A SNAKE:

Your best chance to visit the local E.R.

- SNAKE TONGS:

A spring-assisted grabbing tool used primarily to pick up whatever fell behind the dresser.

- ROAD HUNTING:

(A) An opportunity to complain about why there are no snakes out tonight.

(B) A chance to explain to the Border Patrol officer why you look like an idiot driving 25 mph back and forth over the same stretch of highway.

- SERPENTARIUM:

An assisted living facility for reptiles and amphibians.

- SNAKE HOOK:

A medium-sized pole designed to catch on vines and roots and trip you.

- ONE "Z":

The amount of sleep you're going to get on most herp trips.

- UNSPORTING:

Anyone who gets to the piece of plywood or tin before you can.

- HERPER:

Someone who runs in the opposite direction of those running from a snake.

- FREE-HANDLING:

A method of grabbing a venomous snake. Attempted by the late Harvey Gotbit.

- GASSING:

(A) The use of chemicals by some yahoos to win glory and the most pounds of snakes at the round-up.

(B) Eating chili and beans before the road hunt.

- VENOM MILKING:

Another opportunity to visit the local E.R.

- FOUR-FOOT:

A herp unit of measurement averaging 36 inches.

- ROOMMATE:

A person who snores.

- HIBERNACULUM:

Any hole in the ground, cliffside or embankment where someone once thought they saw a snake.

- TAILING:

(A) Holding a venomous snake by the tail (we all know a snake can't climb up its own body).

(B) Following so close to the road-hunting car in front of you that you run over the kingsnake.

- OLD HABITAT:

The place where they built the WalMart.

- MAP:

(A) The piece of paper showing where Ralph caught those two copperheads last year. It's 20 miles back in the motel where you left it.

(B) A bunch of scribbly black lines indicating the route to the dens and Fat Al's Bar-B-Q and Cat-fish Fry.

- SNAKE PROBE:

Something that might land you in jail or the hospital if attempted on a mammal.

- LOST FRIENDSHIP:

When two herpers spot the same alterna at the same time.

- LUCK:

What the other guy had when he squeezed past the thorn bushes and poison ivy to lift the small piece of tin that you figured wasn't worth it and found the scarlet kingsnake.

- SNAKEPROOF BOOTS:

Footwear made of thick leather designed to create the world's largest blisters.

- GOOD COVER:

The industrial size billboard that even Arnold Schwarzenegger couldn't lift.

- REPTILE SWAP:

A plethora of ball pythons.

- GUIDE:

A local person who knows a place where there are always snakes ... except today.

- CAMERA:

A device left in the motel with the map.

- SNAKEBITE:

An aggressive action taken by a snake seemingly for no reason as you attempt to put it into the bag.

- LAST WORDS OF A DECEASED HERPER:

"It's probably just a dry bite."

- CAMP:

Something early herpers did before the invention of the motel.

- SEATBELT:

A simple restraining device that morphs into something Houdini couldn't get out of when someone yells "snake!"

- BOA CONSTRICTOR:

To non-herpers any large snake that can swallow three grown men.

- SNAKEBITE KIT:

(A) A small container with a vial of antiseptic, a restricting band, a sharp blade, and a suction device, which some nedical authorities say could save your life.

(B) A small container with a vial of antiseptic, a restricting band, a sharp blade, and a suction device, which some nedical authorities say won't do a darn thing except exacerbate your problem.

- HERP BREEDER:

Someone who keeps reptile beauties for sexual puposes and sells the offspring into a life of captivity.

- RATTLESNAKE ROUND-UP:

A carnival of reptile carnage.

- IDIOT:

The practical joker who puts a rubber snake under the last piece of tin ... on every trip!

- SNAKE MUSK:

Field herpers' cologne.

- FIRE ANTS:

Bugs from hell.

- DON'T TREAD ON ME:

- Ⓐ Words that appeared on a famous flag during the American revolution.
- Ⓑ Last thought of a road-killed snake.

- DIURNAL:

A term applied to creatures that are active only during daylight hours. Surprise, you just ran over a diurnal snake last night.

- NOCTURNAL:

A term applied to creatures that come out only at night. Surprise again this morning.

- DESIGNER SNAKES:

Tony Lama boots.

- INVASIVE SPECIES:

Us, in their habitat.



Old Herpers Never Die...
They Just Smell That Way.

Unofficial Minutes of the CHS Board Meeting, March 21, 2013

President John Archer called the meeting to order at 7:37 P.M. at the Schaumburg Township District Library. Board members Dick Buchholz and Aaron LaForge were absent.

Officers' Reports

Recording Secretary: Minutes of the February 16 board meeting were read. Changes were made, and the minutes were accepted.

Treasurer: Andy Malawy reviewed the February financial report. Andy then brought up the handling of the restricted grants fund. Although any donations to the CHS that specify they are to be used for grants have always been placed in this fund, in the past the fund has been zeroed out on the balance sheet at the start of each year. This was not correct, but we have records of all such donations since the restricted fund was set up, so it was easy to remedy, which Andy has already done. Then Mike Dloogatch brought up that it has happened at least once that the board has allocated more for grants in a particular year than the committee actually spent. Mike felt that in such a case the excess should remain in the general fund. Not everyone agreed, but after discussion the board agreed (7-2) that the money should remain in the general fund.

Membership Secretary: Mike Dloogatch reported that numbers were up by 8 this month. Mike read the list of expiring memberships.

Sergeant-at-arms: Attendance at the February meeting was 32.

Committee Reports

Shows:

- Notebaert Nature Museum, first full weekend of each month.

ReptileFest 2014: A planning meeting will be held on Saturday, March 22.

Junior Herpers: Speakers have been lined up through November. The March meeting attendance was 48.

Library: New books were purchased from ECO, and "Property of" stamps were ordered.

Old business

Web pages: Barbara is doing a great job updating our web pages. She has the ReptileFest site up and running.

Donated photos: John Murphy's donation of photos is being

stored at Nancy's house. There was discussion about how to use the photos, as donations, raffle items, etc.

Marty Crump: John received an email from Marty thanking the CHS for the donation towards the publication of her next book.

Chicago Wilderness: We received a thank-you from Chicago Wilderness for renewing our membership.

New Business

Raffle donations: Erica Mede will send out letters soliciting raffle item donations.

Emails: John shared several emails that he received recently. One was from a former member now living and working in India with a conservation group trying to end snake charming. He would like to be in contact with the CHS to see if we can help in any way. Another came from a fifth grade Girl Scout troop. They would like the CHS to participate in an event to raise money for several animal rescues. Finally, a film student is filming for his senior thesis in the Chicago area and would like a CHS member to provide several animals.

Live streaming: John Archer plans to look into the feasibility of live streaming parts of our general meetings.

Round Table

Rich Lamszus displayed a bag of shirts and other things donated after NARBC by USARK. Most of the items will be used by the Junior Herpers.

Linda Malawy received a call from Holly Carter that a Hoosier Herp Society member passed away and left an animal that needs to be placed. Linda also listed the meals that will be available at 'Fest at the same cost as last year.

Andy Malawy said their cruise was great!

Erica Mede got kicked by a wallaby.

Mike Dloogatch has moved into a new office.

Jim Foster had a great time at the zombie event last weekend.

Mike Scott would like to thank everyone who helped out at last weekend's events. We had 3 separate shows over the 3 days!

The meeting was adjourned at 9:34 P.M.

Respectfully submitted by Jenny Vollman



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For sale: High quality, all locally captive-hatched tortoises, all bred and hatched here in the upper Midwest. Baby leopards, Sri Lankan stars, and pancakes usually available, and are all well-started and feeding great! Leopards are \$125 ea., Sri Lankans (2012 hatched) \$475 ea. And Pancakes are \$195 ea. Leopards for out of state sale/shipping require a veterinary health certificate (inquire for cost). E-mail at KKranz1@wi.rr.com or call Jim or Kirsten at 262 654 6303.

Herp tours: **Costa Rica herping adventures**. Join a small group of fellow herpers for 7 herp-filled days. We find all types of herps, mammals, birds and insects, but our target is snakes. We average 52 per trip, and this is our 10th year doing it. If you would like to enjoy finding herps in the wild and sleep in a bed at night with air-conditioning, hot water and only unpack your suitcase once, instead of daily, then this is the place to do it. Go to our web-site <http://hiss-n-things.com> and read the highlights of our trips. Read the statistics of each trip and visit the link showing photos of the 40 different species we have found along the way. E-mail at jim.kavney@gmail.com or call Jim Kavney, 305-664-2881.

Herpetological Researcher/Educator Internships! Research 4 Reptiles, LLC. is seeking two volunteer interns, ages 18 years and older, for the Summer 2014 season to assist in all aspects of herpetological research and educational classes. Our mission is to provide challenging, hands-on, field-based programs for participants ages 10 years and older to inspire enthusiasm for and understanding of native Illinois reptile and amphibian species. All educational programs are taught entirely outdoors at Midewin National Tallgrass Prairie in Wilmington, Illinois, and are limited to 8 participants. Internship details can be found on our website at: <http://www.research4reptiles.biz>. Email Holly Zak at research4reptiles@comcast.net or call 630-337-0757 for questions.

Line ads in this publication are run free for CHS members — \$2 per line for nonmembers. Any ad may be refused at the discretion of the Editor. Submit ads to mdloogatch@chicagoherp.org.

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UPCOMING MEETINGS

The next meeting of the Chicago Herpetological Society will be held at 7:30 P.M., Wednesday, April 30, at the Peggy Notebaert Nature Museum, Cannon Drive and Fullerton Parkway, in Chicago. **Andrew and Sarah Gilpin** will provide us with a photographic glimpse into some of their recent travels to Australia, Ecuador and South Africa. Sarah and Andrew are a young couple who share a passion for the outdoors and photography. Their passion for photography and spending time in the field has taken them around the world in pursuit of incredible reptiles, amphibians, insects, mammals, scenery and well, just about everything

At the May 28 meeting **Kristen Wiley and Jim Harrison**, of the Kentucky Reptile Zoo, will give a program titled “Venomous Vacation: KRZ Visits Sri Lanka.” This presentation will describe Jim and Kristen’s trip to Sri Lanka, where they worked with the Sri Lankan AVRI team to set up a venom production serpentarium and produce the very first venom to be used in antivenom production for the country.

The regular monthly meetings of the Chicago Herpetological Society take place at Chicago’s newest museum—the **Peggy Notebaert Nature Museum**. This beautiful building is at Fullerton Parkway and Cannon Drive, directly across Fullerton from the Lincoln Park Zoo. Meetings are held the last Wednesday of each month, from 7:30 P.M. through 9:30 P.M. Parking is free on Cannon Drive. A plethora of CTA buses stop nearby.

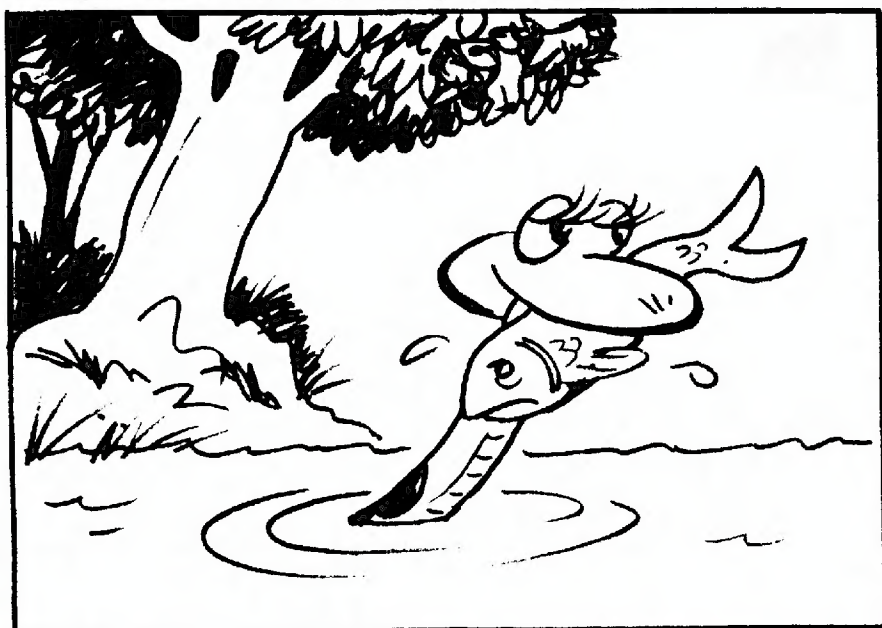
Board of Directors Meeting

Are you interested in how the decisions are made that determine how the Chicago Herpetological Society runs? And would you like to have input into those decisions? If so, mark your calendar for the next board meeting, to be held at 7:30 P.M., May 16, at the Schaumburg Township District Library, 130 S. Roselle Road, Schaumburg..

The Chicago Turtle Club

The monthly meetings of the Chicago Turtle Club are informal; questions, children and animals are welcome. Meetings normally take place at the North Park Village Nature Center, 5801 N. Pulaski, in Chicago. Parking is free. For more info visit the group’s Facebook page.

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